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ENTOMOLOGICAL NEWS

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Facts Determined by Rearing Species of Coniontis (Coleoptera: Tenebrionidae).

By FRANK E. BLAISDELL, SR., Stanford Medical School and Associate in Research, California Academy of Sciences, San Francisco, California.

On April 25th, 1931, the author collected a pair of *Coniontis* Esch., which according to Thos. L. Casey's table was identified as *elongata* Casey. These were secured on Peek's ranch in the Black Lands district, midway between Stockton and Lodi, San Joaquin County, California. The two specimens—male and female—were taken to my laboratory and placed in a breeding jar. Each week the contents of the jar were poured out on paper and carefully examined. Eggs and larvae were soon found. The eggs were laid at varying intervals and the larvae varied in size, indicating differences in age. As the larvae increased in numbers they were divided up into smaller groups and placed in different jars to reduce the chances of cannibalism, and the parental adults were isolated. Sixty larvae were counted. From time to time a limited number of larvae of different ages were preserved in alcohol for study.

The larvae increased in size and began to show evidences of approaching full growth. By August 18th, 1931, many began to be listless, and finally became alternately dormant and active. Their appearance changed, becoming more opaque and filled with fatty bodies. The largest measured 3.5 cm. in length and 3 mm. in width. The larger larvae at this time excavated cells and by March, 1932, pupae were observed, a limited number of which were preserved. In about fourteen days imagos appeared; others appeared in diminishing frequency up to about June 17th, 1932. In August another group of imagos emerged. The number of larvae at this time was reduced to six, these repeated the actions of the earlier larvae and became noticeably

larger than any of those which had pupated. For some reason not determined, these died one by one, although apparently healthy and filled with fatty bodies. The last one was found dead May 19th, 1933. The parental adults continued to live, but produced no more larvae than those mentioned above.

My object in rearing species of Tenebrionidae was to obtain larvae and pupae for specific taxonomic determinations and correlation. It must be kept in mind that the eggs were deposited over a period of several weeks, but none after a certain time. It is not only interesting, but significant that the spring or first adults were referable to *protensa* Casey. The first, a male, was elongate, a little wider in the region of the prothorax and somewhat narrowed to elytral apex, similar to the type which I have seen and studied; elytra and pronotum extremely finely punctate, surface alutaceous or extremely finely reticulo-granulate; prosternal process finely margined at apex and finely punctate; abdomen sparsely punctate. Length 14 mm.; width 6 mm.

The second or late summer group of emergents (August) were like the parents, *elongata* Casey. These were elongate oblong-oval in outline. In all probability the oldest and largest larvae that lived over into 1933, would have developed as *obsidiana* Casey: "The largest species of the group," stout oblong-oval, length 15.5 mm.; width 6.6 mm. These three forms in nature inhabit the same geographical area.

Now, what bearing have the above facts on the specimens collected in the field? Any coleopterist who has taken series of *Coniontis* in any very restricted area, could not have failed to note the differences in size, form and punctation presented by the specimens. These constitute the problem that caused Col. Casey to describe a considerable number of new species. Specimens that I have collected in the field and others that were reared, have lived from one to two years. The adults hibernate in the soil at considerable depth, during the seasons that are unfavorable to them; those in the breeding jars remain at the bottom of the soil.

I have demonstrated by the rearing of *Coniontis elongata* Casey, that individuals developing from eggs laid by a single female, may develop into at least two, possibly three, forms

which have been recognized as species or subspecies. It is evident, therefore, that these are in the main seasonal phases of but one species. These facts account for the differences observed between individuals taken in the field, excepting of course the possibility of other and distinct species inhabiting the same geographical area. Adults hibernate through one or two winters and appear in the spring and summer, when they occur in vast numbers in some localities. The intermingling of the different phases, of possibly more than one species, constitutes the difficult problem that a taxonomist has to deal with.

Coniontis viatica Esch. has been similarly reared from specimens collected in the suburbs of San Francisco and presents similar facts. The pupae of *Coniontis* are characteristic: They are clothed throughout with a soft, short pubescence, are without anal cerci which are so obvious in other Tenebrionid tribes. In the pupae of *elongata* the pubescence is longer and shaggy on the vertex of the head and apical area of the pronotum. This is not observed in the pupa of *viatica*. These differences point to the probability that the two are distinct species, although their distributional areas may at times overlap.

In 1904, about seventy specimens of *viatica* were collected from an area about a quarter acre in extent, near the Russian River, on the opposite side from Duncan Mills, not far from the railroad bridge, Sonoma County, California. In this series were seen variations analogous to those observed in *elongata*. The different forms were separated and sent to Col. Casey for identification. He returned specimens labeled *lucidula* Casey and *innocua* Casey, leaving the bulk of the series without a name, they being distinctly more strongly punctate. Specimens of *viatica* from the vicinity of San Francisco, include such forms as *timida* Casey and *conicicollis* Casey.

During the month of July, 1934, I collected about Bass Lake, Madera County, California, and secured a large series of a species that I consider to be *Coniontis rotundicollis* Casey. I have taken this species in Yosemite Valley, across the road directly in front of Bridal Veil Falls. They are found under pine needles and chip debris. These are quite typical and best represent the species. The species occurs at altitudes of 4000

to 5000 ft.; at the latter altitude *Coniontis montanus* Casey appears and ranges up to 7500 ft. elevation. Below 3000 ft. a different species occurs. *Rotundicollis* Casey is a distinct species and has definite and constant characters, namely: A highly polished and shining surface, very fine sparse punctation, more or less rufous antennae and tarsi, the prosternal process always strongly margined throughout.

Coniontis montanus Casey is a pubescent and distinct species, constant in facies; it evidently does not develop seasonal forms, as the altitude at which it lives is not favorable. In the extremes of its distributional area north and south it passes into *canonica* Casey (Oregon) and *perspicua* Casey (Tulare County). *Montanus* Casey has been identified as *affinis* Lec. by Dr. George Horn, as observed from specimens in the British Museum, London, examined by me, the name being in Dr. Horn's handwriting. *Affinis* Lec. is also a sparsely pubescent species, of larger size, described from specimens collected at Benecia, California; it may also occur in the Sacramento Valley and bordering foot hills, but not occurring at higher altitudes.

Coniontis blaisdeli Casey was described from specimens collected at Mokelumne Hill, Calaveras County, California. I secured at one collecting a large series from an area not greater than a quarter acre on French Hill at the out-skirits of the town. The series presented an amazing degree of variation, both in form and sculpturing. I am inclined to consider that it is the species which inhabits the eastern foot hills of the great valleys in central California, up to an altitude of about 2000-3000 ft.

Coniontis sanfordi Blais. also occurs in the vicinity of Mokelumne Hill; it is smaller, shorter oblong-oval, with rufous antennae and tarsi and of different habits, lives under the leaves beneath trees in shaded localities. Specimens of a species of similar habits taken on Mt. Tamalpais cannot be separated from those taken at the type locality, elev. 1000-2000 ft.

Casey has made some very pertinent remarks regarding those phases referrable to *elongata* and *viatica,* in a foot note in his Revision of the Coniontinae, (Proc, Wash. Acad. of Sciences, vol. X, Apr. 25, 1908, p. 108).

For several years I have had a Review of the Species of *Coniontis* in mind, and have accumulated much material for that purpose. The study has proved very unsatisfactory, as it became increasingly evident that the problems involved had to be solved in some other way than by the study of dried museum specimens. I decided upon rearing the species as the way out of the dilemma. Research in rearing was commenced some four years ago and the study has been most elucidative. The above facts that I have presented will show the trend of the research, and the hopes and suggestions which it offers in finally determining specific limitations where the problems have been most confusing.

Another Record of the Occurrence of Strymon ontario in Missouri, with Notes on the Larva (Lepid.: Lycaenidae).

By Austin H. Clark, U. S. National Museum, Washington, D. C.

Mr. Harold O'Byrne's interesting discovery of *Strymon ontario* in Missouri (Ent. News, vol. 45, 1934, p. 212) led me to investigate in detail the history of a ragged, but unworn, female that long was the sole representative of the species in the collection of the U. S. National Museum.

This specimen was mentioned by Dr. W. J. Holland in 1931 (Butterfly Book, 2nd ed., p. 235) and was figured by myself in 1932 (Bull. 157, U. S. Nat. Mus., pl. 23, figs. 7, 8).

It bears the following labels: "No. 42 L, May 31, 1872," and "Scudder writes Dec. 23, 1875, that this is *autolycus* Edw." The number 42 L refers to notes by Prof. C. V. Riley on file in the Bureau of Entomology, Department of Agriculture, which I have been courteously permitted to consult. These notes, headed *autolycus*, read:

Thecla autolycus Edw. May 8, 1872. Under oak tree, beneath stones and bricks. A rather curious conchiliform larva. Head and first segments retractile. Color dull straw yellow, variegated with pale fulvous and olive green. Minutely granulated with black spots, each giving rise to a short stiff hair. Dorsum narrow, flattened; sides sloping roof-fashion. Venter

glaucous, with full complement of legs well developed. Stigmata large, but so concolorous with body that with difficulty seen.

May 9, 1872. It has changed to pupa.

The butterfly emerged from the pupa on May 31, 1872. Later the butterfly was sent to Samuel H. Scudder for determination, and, under date of December 23, 1875, he wrote that it was *autolycus* of W. H. Edwards.

In notes on *Strymon liparops,* included under the same number, frequent mention is made of "Mary" (Miss Mary E. Murtfelt). The locality where these notes were written was Kirkwood, Missouri, about thirty miles west of St. Louis, where Professor Riley and Miss Murtfelt resided at the time.

This seems without doubt to be the specimen on the basis of which Scudder in 1876 added Missouri to the range of *Thecla autolycus,* and from which he acquired the information that the food plant of *autolycus* is *Quercus obtusiloba.* It represents, however, not *Strymon ontario autolycus,* but quite typical *Strymon ontario ontario.*

All of the citations of *autolycus* from Missouri and all the references to its larva and food plant refer to this specimen of *Strymon ontario ontario.* Nothing is known of the early stages of *S. o. autolycus.*

Note on the Occurrence of a Rare Fly (Diptera, Cœnomyidæ).

I wish to record the capture of a male specimen of *Glutops singularis* Burgess, at Amherst, Massachusetts, taken in early May, 1934, by myself. Three female specimens were taken in early May, 1931, at Orient Springs, West Pelham, Massachusetts, by Mr. Frank R. Shaw. At this time it may be well to make a correction in the records of the occurrence of this fly as given by Leonard (Mem. Amer. Ent. Soc., 7:51-52; 1930). The two specimens, therein stated as being collected by Doctor C. P. Alexander and as being males, are in reality females, and the present specimen constitutes the first record of the male sex in the Connecticut Valley since the original capture of the unique type of Edward Burgess at Springfield, Massachusetts, in or about 1872.

Howard R. Dobbie, Haverhill, Massachusetts.

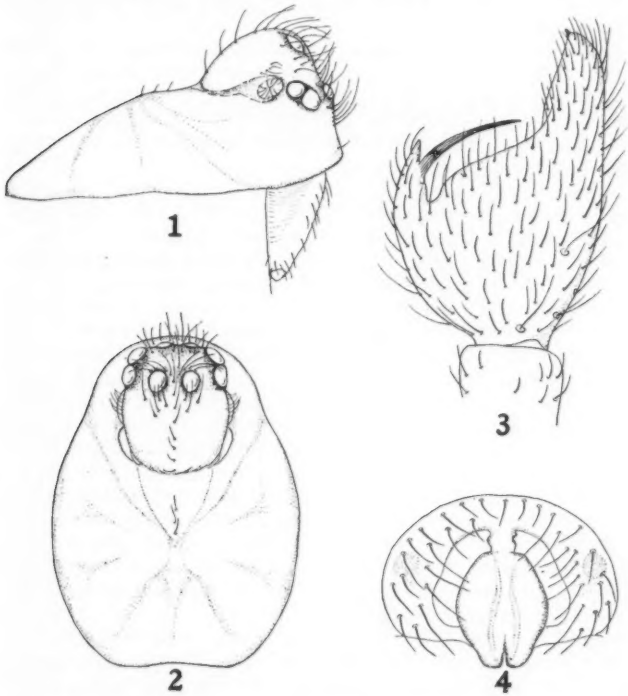
A New Species of Hybocoptus from New York (Araneae).

By C. R. Crosby and S. C. Bishop.

Since the publication of our revision of the section of the Erigoneae in which the males possess cephalic pits,[1] the new species described below has been collected at a number of localities in New York State. It is closely related to *H. dentipalpis* Emerton by the form of the tibia and bulb of the male palpus and the epigynum of the female.

Hybocoptus cymbadentatus, n. sp. (Fig. 1-4).

Male. Length, 2.3 mm. Cephalothorax smooth and shining,



Hybocoptus cymbadentatus 1. ♂, cephalothorax, lateral view. 2. ♂, cephalothorax, dorsal view. 3. ♂, tibia, right palpus, dorsal view. 4. ♀, epigynum.

[1] Ann. Ent. Soc. Amer. 26:105-182, 1933.

grayish yellow with the radiating lines and margin darker, cephalic lobe lighter; viewed from above evenly rounded on the sides to the cervical groove, then gently converging to the broadly rounded front. Cephalic lobe with the sides nearly parallel in front, slightly converging posteriorly. Cephalothorax viewed from the side, rather gently ascending behind, then nearly level to the cervical groove, evenly and broadly rounded over the head to the posterior median eyes, clypeus straight and nearly vertical. Cephalic pit close behind the posterior lateral eye, large, nearly round, lying in the anterior end of a groove which extends to the back of the lobe. A single row of fine hairs on the back of the lobe, a row of longer, dark curved hairs directed forward on the top of the lobe, and a cluster of shorter recurved hairs in the median ocular area, a small cluster of slender hairs below the anterior median eyes.

Posterior eyes in a straight line, the median smaller than the lateral, placed on the front of the lobe, separated by the diameter and from the lateral by a little more than twice the diameter. Anterior eyes in a straight line, the median smaller than the lateral, separated by the radius and from the lateral by three times the radius.

Sternum gray over yellow, broad, convex, smooth and shining. Endites orange-yellow lighter distally. Legs and palpi orange-yellow. Abdomen mottled grayish yellow.

Femur of palpus nearly straight. Patella rather stout, widened distally. Ratio of length of femur to that of patella as 25 to 11. Tibia deeply hollowed out leaving a thin shell, dorsally produced into a large triangular lobe which ends in a minute incurved tooth; on the mesal side there is another smaller pointed lobe which bears on its dorsal margin a long, slender spine-like process directed laterally. Paracymbium stout, broad at base, sharply hooked distally. Cymbium armed basally beneath the dorsal process of the tibia with a stout black tooth. The embolus is a long, slender, black style; it arises under the edge of the cymbium near the tip on the mesal side and passes between the bulb and the cymbium, emerging on the lateral side near the tip of the paracymbium; it then curves up along the lateral side of the bulb, crosses close to the tip of the cymbium and passes across the face of the bulb so that the tip lies near the bezel.

Female. Length, 2.3 mm. Similar to the male in form and color. Head normal. Posterior eyes in a straight line, equal, the median separated by two-thirds the diameter and a little nearer to the lateral. Anterior eyes in a very slightly recurved

line, the median smaller than the lateral, subcontiguous and narrowly separated from the lateral. The epigynum is a plate, straight behind, rounded in front, the lateral margins straight, converging posteriorly, the middle lobe is fusiform in outline and is raised into a high ridge projecting backward beyond the edge of the epigynum and ends in two approximate rounded points. At the base of the middle lobe on each side there is a shallow, light colored depression.

Holotype ♂, *allotype* ♀ McLean, NEW YORK, Oct. 13, 1934. 2 ♂, 3 ♀ *paratypes* with the same data. Collected by sifting in the Cornell University Wild Life Preserve. Types in Cornell University, Dept. of Entomology.

New York: Wilmington Notch, Oct. 23, 1934, 1 ♂ 2 ♀; Wawbeek, Oct. 23, 1934, 5 ♂ 4 ♀; Raquette Lake, Oct. 23, 1934, 1 ♂ 1 ♀; Ithaca, Oct. 14, 1934, 1 ♂.

A New Acanthoscelides from Eastern United States (Bruchidae: Coleoptera).

By L. J. BOTTIMER, Haddon Heights, New Jersey.

Acanthoscelides tenuis, new species.

Oblong; black except base of antennae; unevenly clothed with coarse appressed cinereous pubescence slightly concealing surface sculpture, that on elytral intervals interrupted by denudate areas; surface with very fine and indistinct punctuation.

Head moderate in length; front not carinate; eyes normally prominent, emarginate for nearly two thirds their length and separated by about their width. Antennae (with front of head vertical) reaching just beyond posterior angle of prothorax, segments scarcely produced apically, joints 3-11 forming a compressed club, joints 1 and 2 nearly oval, subequal in width, 1 slightly longer, 3 narrow at base, widening a little apically, as long or longer than 2, 4 nearly quadrate, as long as 3, 5-10 widening apically, outer joints strongly transverse but not at all serrate, terminal joint as wide as 10, slightly longer and obliquely pointed, joints 1-4 usually reddish especially beneath. Prothorax slightly wider at base than long, sides slightly convexly arcuate, converging to about two thirds of width of base, hind angles acute, surface with numerous coarse shallow punctures. Scutellum subquadrate, emarginately bidentate at apex, appearing round because of dense pubescence. Elytra one quarter longer than wide, only slightly wider at base than

thorax, widest in middle, sides slightly arcuate; striae well impressed, punctures not perceptible, 4th and 5th abbreviated apically; intervals nearly flat. Pygidium elongate triangular, convex, oblique at base, apex nearly vertical in female, more convex and somewhat reflected in male. Sternites not modified, not much different in sexes, male with two to five subequal in length, five not appreciably narrowed in front of pygidium, female with two to four subequal in length, five slightly longer. Hind femora rather slender, slightly narrower than hind coxae; lower margin nearly straight, armed near apex with a small tooth and two minute denticles, the latter sometimes quite rudimentary or absent. Hind tibiae scarcely carinate externally; mucro short, approximately as long as width of first tarsal segment.

Length of type from apex of thorax to apex of elytra, 1.25 mm., total length, 1.4 mm., width, 0.7 mm. Others vary in total length from approximately 1.3 to 1.8 mm.

Described from male type and 52 paratypes (sexes about equally divided) from four sources:

1. Ten specimens in the U. S. National Museum collection representing the following localities: Detroit, MICHIGAN; Eagle Lake, TEXAS; Columbus, TEXAS; TEXAS; Enterprise, FLORIDA; and Haw Creek, FLORIDA.

2. One specimen in the Horn collection in the Academy of Natural Sciences of Philadelphia, labeled "LA."

3. Seven individuals given the writer by Mr. Chas. Liebeck. They are from Detroit, MICHIGAN; St. Louis, MISSOURI; TEXAS; Citronella, ALABAMA, and Enterprise, FLORIDA.

4. Thirty-five examples collected by the writer in Eastern Texas, the localities being Robstown, Pearland, Goose Creek, Liberty, and Hillsboro.

The *type* is one of a series of ten specimens labeled "Pearland Tx Brazoria Co 11 March '25 L J Bottimer In flower of wild blackberry." Type and five paratypes from writer's collection deposited in the U. S. National Museum with ten paratypes originally in the Museum collection (Cat. No. 50860). Two paratypes, including the Horn specimen, in the Academy collection. Balance of material in the writer's collection.

Acanthoscelides tenuis is easily distinguished from related species by its slender form and small size. *Acanthoscelides atomus* (Fall) is slightly shorter, more robust, and has a much longer mucro. Small individuals of *Acanthoscelides alboscu-*

tellatus (Horn) resemble the present species, but are more robust and have the pronotum more densely and coarsely punctate. From its more distant relative, *Acanthoscelides seminulum* (Horn), *A. tenuis* differs in having the 4th and 5th elytral striae abbreviated instead of the 5th and 6th, in the shorter mucro, and in the unmodified first ventral of the male.

A. tenuis was apparently first collected by Hubbard and Schwarz at Detroit, Mich., sometime during the period 1874 to 1877. Unfortunately, the species has not been reared, so the host plant is unknown. The adults have been taken in Texas on flowers of blackberry and red haw and by sweeping miscellaneous flowers, mainly during March and April.

Bruchus irresectus Fahraeus 1839 (*Bruchus obtectus* Say 1831) has been designated as genotype of *Acanthoscelides* Schilsky 1905 by Bridwell 1929 (Proc. Ent. Soc. Wash. 31:42). The species mentioned in the present paper are assigned to this typically American genus, in spite of the absence of the frontal carina.

Notes on the Structure and Position of Drasteriodes Hampson (Lepid.: Noctuidae).

By A. Glenn Richards, Jr., Zoology Department, University of Rochester.

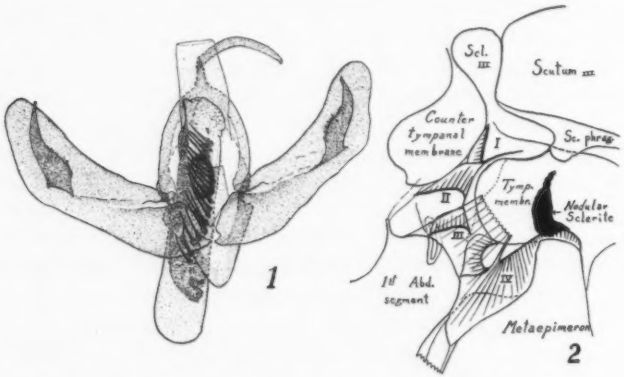
Drasteriodes—Hampson, Lepid. Phal., N. Gen. & Spec. Noct., p. 41. 1926. (genotype: *Phothedes limata* Christ., sole species & designated type).

Through the courtesy of Capt. Riley and Mr. Tams of the British Museum, I have had the opportunity of examining a male of *D. limata* (Christ.) from "Jolatan, Transcaspien," and offer the following notes on its structure.

Male Genitalia: (textfig. 1). Symmetrical. Uncus simple, with few very short setæ scattered over its surface. Anal tube moderately long, without scaphium or subscaphium. Tegumen moderate and rounded. Harpes simple, lightly chitinized, with a few marginal macrosetæ and many setæ over the surface (omitted from drawing); without patch of long scales at base. Clasper a large, strongly chitinized, somewhat hook-shaped structure arising from a rudimentary foot-like base; the curved basal margin with a partial row of short setæ; clasper of left harpe slightly larger and longer than that of right harpe. Sac-

culus weak; clavus rounded with a few short setæ near its margin. A line of membrane separates the sacculus from the costal margin of the harpe. Juxta large, not strongly chitinized, pointed below. Transtillæ absent. Penis with terminal blunt tooth, the ventral subterminal area with large patch of small spines; vesica with many cornuti plus a row of large spines (setæ) almost as long as width of penis (19 in number but difficult to count accurately in the central part) and a compact patch of slightly smaller spines about two-thirds the distance from base, the latter group directed longitudinally.

Tympanum:* (textfig. 2). Hood rudimentary, entirely



Drawings made by the author with the aid of a camera lucida.

Textfig. 1. Male genitalia of *Drasteriodes limati* (Christ.). All setae omitted from uncus, clavus and harpes.

Textfig. 2. Internal view of tympanal frame and associated structures of *D. limata*. The dotted line running from the dorsal corner of pocket IV to the center of pocket I represents the external margin of the deep and oblique tympanal frame. The Roman numerals represent pockets I-IV respectively.

membranous. Alula normal. Counter-tympanal cavity large. Tympanal membrane of moderate size. Nodular sclerite produced and slightly curved at both ends giving a somewhat crescentic appearance. Scutal phragma bluntly pointed, extending well medially but only a short distance ventrally. Tympanal frame deep, the dorsal part slightly oblique in the dorso-ventral direction, produced at dorso-medial corner due to large size of the counter-tympanal cavity. Pocket I developed dorsally

* For a description of the tympanal region and the nomenclature here used the reader is referred to my paper on the Noctuoid tympanum in Entomologica Americana, vol. 13 (n. s.), pp. 1-43, pls. 1-20. 1933. I regret it is too lengthy to repeat here.

as an oblique, shallow but deep pocket, ventrally and anteriorly rudimentary or open; II moderate, asymmetrical, produced above, not quite reaching III; III instead of being a membranous rounded pocket is reduced to a shallow, squarish pocket with a heavy, ridge-like wall, not fused with tympanal air-sac; IV a single, overhung pocket with a small mouth and a moderate flange extending slightly beyond the nodular sclerite.

On a basis then of both the ♂ genitalia and the tympanal structures, *Drasteriodes* Hmpsn. cannot remain between *Drasteria* Hbn. and *Syneda* Gn. as placed by Hampson, but must be removed from the *Melipotis-Syneda* group of *Erebinae* entirely. In a synopsis of the *Melipotis-Syneda* group soon to appear, it will be seen that *Drasteriodes* Hmpsn. differs from this group in practically every genitalic (♂) and tympanal structure. There is no genus in North America with which *Drasteriodes* can be profitably compared. Nor do any of the few southern palæarctic genera in my collection compare with it. Its correct placement must be deferred.

It may seem a bit premature or like "rushing into print" merely to remove a genus from a group when unable to place it more correctly, but in view of my interest in and forthcoming synopsis of the *Melipotis-Syneda* group in which Hampson placed this genus, I feel it is not inappropriate to point out how distinct *Drasteriodes* Hmpsn. is from *Drasteria* Hbn. & *Syneda* Gn. and to add the above additional description and figures to Hampson's original description of the genus.

Obituary Notes of Authors Whose Names Appear in Leng's Catalogue of the Coleoptera of America, North of Mexico.

The following data were obtained by consulting the catalogue and supplements: 693 names of authors are mentioned in the catalogue, of whom 248 have passed on. Seventeen passed away whose age is not known, and sixty-two before reaching the age of 60. Sixty-three between 60 and 70. Sixty-seven between 70 and 80. Thirty-four between 80 and 90. Three between 90 and 96, and two 99 or over; these two lived to a remarkable age: L. Reiche was born in 1790 and died in 1890, so he was 99 or may have been 100. Philogene Duponchel was born in 1744, and died January 10, 1846, at the age of 101 or 102. PHILIP LAURENT.

Notes on the Tachinid Genus Pseudotachinomyia with Descriptions of Two New Species (Diptera).

By H. J. REINHARD, College Station, Texas.

A brief discussion of the generic characters of *Pseudotachinomyia*, with a key to species, and descriptions of two new forms are presented on the following pages. Types of the new species are in my collection.

The genus was described by Smith (Psyche, Vol. 24, 1917, p. 54) with *webberi*, new, as the type and sole species. The holotype male and allotype female are in the U. S. National Museum. One of the outstanding characters of the genus is the peculiar structure of the genitalia. Both sexes of all the species here included have the apical abdominal sternite unusually developed and prominent. In the female it is undivided in front and deeply U-shaped, forming a sheath for the reception of the short heavy piercer. In the male the sternite is deeply incised with each lobe bearing a narrowed ventral projection near the middle. The inner forceps are broad, united, and strongly convex behind with the arcuate sides tapering to a short apical beak, effecting a boat-shaped structure. The outer forceps are thin and rather closely appressed to the ventral side of the second genital segment, moderately wide at base with the greatly narrowed tips beset with long hairs. Aldrich has pointed out that the only known North American species with closely similar genitalia is *Phorocera solossonae* Townsend, which has hairy eyes.

The remaining essential characters are about as in *Tachinomyia*. The females of the latter genus possess no piercing organ which seemingly implies important biological differences. The host relationships of both genera, so far as known, are with lepidopterous larvae.

Key to Species of *Pseudotachinomyia*.

1. Parafacial on narrowest part barely wider than third antennal segment 2
   Parafacial much broader, about two-thirds the width of facial depression; third antennal segment one and two-thirds times length of second; front very prominent;

cheek nearly one-half eye height, female only (Washington) .....*compascua*, new species.

2. Intermediate abdominal segments with discals; antennae mostly black; parafrontals blackish near vertex, clothed with fine longish hairs, more thickly so in male (New England and North Carolina to Illinois) ...*webberi* Smith. Intermediate abdominal segments without discals; proximal antennal segments wholly red; parafrontals with dense pollen extending to vertex, sparsely clothed with short hairs in both sexes (Texas) . . . *aequalis*, new species.

PSEUDOTACHINOMYIA WEBBERI Smith.

Pseudotachinomyia webberi Smith, Psyche, Vol. 24, pp. 54-56.

Smith's description which is readily accessible, furnishes most of the essential details. The principal characters distinguishing the species from the other members of the genus are listed in the key. Front in male 0.308, in female 0.349, of the head width. The genitalia as described above.

The species ranges from New England to North Carolina and westward to Illinois.

Pseudotachinomyia aequalis, new species.

♂ : Front 0.29 of head width (one specimen), widening rapidly downward from triangle, and projecting about three-fourths width of eye at base of antennae when viewed from the side; parafrontal with thick grayish pollen extending to vertex, sparsely clothed with rather short black hairs; median stripe reddish-brown, uniform in width on entire length; frontals in a single row descending below base of third antennal segment, uppermost two reclinate the remainder directed inward; ocellar bristles large, proclinate; inner verticals well developed, outer ones vestigial; entire face, cheeks and posterior orbits covered with rather dull dense gray pollen; antennae reaching almost to oral margin, basal segments red, third black, about four times longer than second; arista long, slender beyond basal third, finely pubescent, penultimate segment hardly twice as long as thick; face receding, deeply excavated, its ridges bearing rather short bristly hairs on lower half or less; vibrissae strong, situated just above mouth; parafacial bare, on lower part about as wide as third antennal segment; eyes bare; cheek clothed with fine black hairs, fully one-fourth the eye height; proboscis short and thick, labella fleshy; palpi ordinary, yellow, beset with numerous black hairs; back of head gray pollinose, thickly clothed with whitish hairs.

Thorax black, covered with rather dense gray pollen, which is interrupted on mesonotum by four black stripes before the suture and five behind; scutellum tinged with red apically, dusted with somewhat changeable gray pollen. Chaetotaxy: Acrostichals 2, 3; dorsocentrals 3, 3; humerals 4; posthumerals 2; notopleurals 2; presuturals 2 (inner one weak); supraalars 3; intraalars 3; postalars 2; pteropleurals 1; sternopleurals 2, 1; scutellum with three strong marginals, besides a much smaller discal and upturned decussate apical pair; side of metanotum beneath calypter bare; postscutellum normally developed, gray pollinose; prosternum haired at sides; propleura bare; calypters opaque, white.

Abdomen narrowed and curved downward toward apex, wholly black; last three segments entirely covered with dull gray pollen which, when viewed from behind, shows rather well defined dark reflecting spots on each side of the middle above on segments three and four; basal segment with thinner gray pollen, bearing a pair of median marginal bristles; second and third segments without discals, former with marginal pair and latter bearing a marginal row of about 10, large; fourth segment with a row of discals situated well behind middle, besides the usual marginal row; hairs on all segments except fourth rather short and subdepressed; genital segments unusually slender, reddish-black, gray pollinose and clothed with fine hairs behind; forceps as in *webberi*, but with the outer pair distinctly wider at base; fifth sternite black, each lobe with a prominent ventral projection near middle, inner margins tinged with red and clothed with soft short hairs.

Legs mostly black, basal segments and tibiae with a reddish tinge; claws and pulvilli elongate; middle tibia bearing three strong bristles on outer front side; hind tibia not ciliated.

Wings grayish hyaline; fourth vein with a rather angular stumpless bend, thence concave to costa which it reaches slightly beyond apex of third vein and far before extreme wing tip; third vein with three setulae at base; hind cross vein bicurved, joining fourth about two-fifths the distance from bend to small cross vein; costal spine small; epaulets black.

♀: More robust in build than male; front at vertex 0.33 of the head width (average of three: 0.33; 0.33; 0.33); two proclinate orbitals present; outer verticals one-half length of inner pair; third antennal segment barely two and one-half times longer than second; abdomen thick, thinly pollinose and subshining above; genitalia with a piercer as in *webberi*.

Length: Male, 10 mm.; female, 11 to 12 mm.

Described from four specimens. One male (*holotype*) and two females, College Station, TEXAS, April 19, 1920 (H. J. Reinhard); and one female from the same locality, April 22, 1919 (H. J. Reinhard).

Pseudotachinomyia compascua, new species.

♀: Front at vertex 0.38 of the head width (one specimen), prominent below, projecting about the width of eye as viewed from the side; antennae slender, distinctly shorter than face, third segment about one and two-thirds times length of second; facial ridges with bristly hairs extending above middle; parafacial unusually broad, about two-thirds the maximum width of facial depression; cheek fully two-fifths eye height. Scutellum wholly black. Abdomen with longish but depressed hairs on intermediate segments above; third bearing a weak reclinate pair of discals; genitalia with a piercer as in *webberi*. Legs black; claws and pulvilli moderately long. Wings gray; third vein bearing four setulae at base. Otherwise as in *P. aequalis*. Length, 8.5 mm. Male unknown.

One specimen, *Type*, Moses Coulee, WASHINGTON, April 2, 1933 (J. Wilcox).

The decidedly prominent front and wide parafacials readily distinguish the species from the others included herein.

An Epidemic of the Giant Sand Wasp Sphecius speciosus (Drury) at Narrows, Virginia (Hymen.: Sphecidae).

On July 23, 1934, Mr. John C. Fox, an engineer at Narrows, Virginia, brought to the Mt. Lake Biological Station of the University of Virginia a box of insects for identification. The insects were collected in the yards of the electric substation of the Virginian Railway Co. at Narrows, Va. The writer identified the insects as specimens of the Giant Sand Wasp *Sphecius speciosus* (Drury).

Mr. Fox stated that the wasps were first noticed about five years ago at the electric plant. Since that time the numbers have steadily increased each year until they have attained epidemic proportions. Although the activities of the wasp have caused no material loss as yet, the resident engineers feared that continued increase would lead to damage to the underground conduit ducts. In addition, the wasps were proving to be a source of much annoyance to the personnel of the station.

The writer visited the substation a week later and found the situation substantially as described by Mr. Fox. The electric

plant is located on the banks of the New River, about one hundred yards from the water's edge and at a slight elevation. The soil is loose and sandy and comparatively dry. The burrows were found scattered through the yards of the plant and in the adjacent fields. The wasps were flying back and forth in considerable numbers and quite a bit of reproductive activity was observable. There were no large trees nearby to aid the insect in bringing Cicadas to the burrows, as has been described by Fuller and others.

An examination of the nests revealed a considerable mound of dirt usually about a foot in diameter placed loosely about the entrance. Frequently the mound was in front of the underground opening. In other cases there was a trail through the dump heap reminding one of a groove. On excavation there was disclosed an underground passage about a foot long slightly enlarged at the terminus. In some of these cells a single Cicada was found, in others the cell was empty. Although there had been an extremely heavy rain the night before, the burrows seemed comparatively dry.

The officials of the plant were quite anxious to know just how the wasp might be controlled. The immaculate grounds usually found around electric substations were marred by many mounds of fresh dirt. An effort was being made to iron out these mounds but evidently it was not too successful. The writer observed that a collection of old tennis racquets was kept in the building and whenever an official emerged he was armed with a racquet to strike the wasps.

The habits of the wasp and occurrence of colonies have been often described in the past. This occurrence seems worth reporting because of the long duration of the settlement at one place and the extremely large number of individuals composing the colony. An entomologist interested in the study of this species might easily have collected hundreds of specimens in a few hours this past summer within an area of a few hundred square feet.

HOMER C. WILL, Juniata College, Huntingdon, Pennsylvania.

Notes on the Lists and Catalogues of the Coleoptera of the United States and America North of Mexico.

The first list or catalogue was that of Friedrich Ernst Melsheimer, entitled "Catalogue of the Described Coleoptera of the United States," which after being revised by S. S. Haldeman and J. L. Le Conte, was published by the Smithsonian Institution in July, 1853. 4,816 species are listed. Some eight years after the publication of the Melsheimer catalogue, at the request of the Smithsonian Institution, Dr. Le Conte started

on a new list of the Coleoptera of North America, only Part I, of which was ever issued (1863). Owing to his many professional duties, he was unable to find time to finish the task he had started. Part I only lists the species to the end of the Elateridae. 4,017 species are listed. In 1873, G. R. Crotch published his "Check List of the Coleoptera of America North of Mexico." All the species, of which there are 7,450, are numbered. A supplement to the Crotch list, by E. P. Austin, was published in 1880, bringing the total number of species up to that time to 9,704. Henshaw's "Coleoptera of America North of Mexico" was published in 1885. Three supplements by Henshaw appeared first in February, 1887, the second July, 1889, and the third in 1895; number of species listed 11,256. The latest catalogue is the one by Charles W. Leng. "Catalogue of the Coleoptera of America North of Mexico," published in 1920, with three supplements issued in 1927 and 1933. In the catalogue of 1920, 18,547 species are enumerated, while the three supplements contain 3,503 additional species, making a total of 22,050 species. Too much can hardly be said regarding this, our latest catalogue; for in addition to the species, the subspecies, synonyms, etc., are also listed. The geographical distribution following the name of the species will be a great help to those who are interested in the study of our Coleoptera. The "Catalogue of the North American Coleoptera Described as Fossils" by H. F. Wickham, will prove of value to many. Last but not least, is the "Bibliography of Taxonomic Coleopterology." This latter feature will save much time to one seeking for a publication relating to the Coleoptera of America North of Mexico. PHILIP LAURENT.

Early Publications Referring to Coleoptera.

There are close to 4,000 titles of publications listed by Leng, in his "Catalogue of the Coleoptera of America, North of Mexico," of which the following antedate all the others as to time of publication:

Frisch—Beschr. von allerley insecten in Teutschland. 1720-1738.
Catesby—The Natural History of Carolina, Florida, etc. 1731.
" The Natural History of Carolina, II, 1743.
Reamur—Mém. pour serv. à l'hist. des insectes. 1734-1742.
Linné—Fauna Suecica, etc. 1746 and 1761.
" Systema Naturae 1758-1759 and 1766-1768.
" De Meloe vesicatorio. 1763.
" Museum S. R. M. Ludovicæ Ulricæ, etc. 1764.
" Mantissa, p. a. g. 1771.
De Geer—Mémoires pour servir à l'histoire des Insectes (Part 1, 1752).

Geoffroy—Histoire abrégée des Insectes que trouvent, etc. 1762.
Scopoli—Entomologia Carniolica, etc. 1763.
Mueller—Fauna Insectorum Friedrichsdalina, etc. 1764.
" Manipulum Ins. Taurinesium Mélanges, etc. 1766.
Stroem—Beskriveise over Norske Insecter, etc. 1765.
Schaeffer—Elementa Entomologica, Ratisbonæ. 1766.
Voet—Cat. Syst. Col., La Haye. 1766.
Drury—Illustrations of Natural History, etc. (Part 1, 1770.)
Forster—A Catalogue of the Animals of North America. 1771.
Fabricius—Systema Entomologiæ. 1775.

PHILIP LAURENT.

The Bite of Melanolestes picipes, Herrick-Schaeffer (Hemip.: Reduviidae).

On the evening of Friday, Oct. 16, 1934, while working at my desk I heard something strike the screen of a window at my side and turning, saw a large black reduviid crawl under it, run across the sill, and fly to my desk. I immediately caught it up by the thorax and noticed that it was *Melanolestes picipes* Herrick-Schaeffer, or the Kissing Bug. While I held it, it squealed loudly by rasping its proboscis, the labium, back and forth in the ventral groove by an up and down movement of its head.

In its struggles it slipped from my fingers and ran across the desk. I snatched at it and as I picked it up it drove its beak into the tip of the fourth finger of my right hand. The pain was excruciating and, as I dropped the insect, it flew and disappeared in a closet.

The pain of the bite retained its severity and ran up and down the finger in throbs with each heart beat. A small red spot about the size of a common pin head showed where the insect had bitten. A sort of small blood blister formed at this point and I opened it with a sterilized needle bathed in iodine, but there was no blood present, only a spot of browned flesh. The pain continued unabated during the evening and Saturday, by the afternoon, the end of the finger was numb and it had become swollen down to the second joint. Sunday morning the entire finger was swollen and the swelling was passing into the muscles along the side of the hand. The small brown spot was still present.

The family doctor was visited and he wrapped the finger in hot wet gauze and put an air tight oilcloth cover over it. The finger continued to heat, throb, and have fever in it, but by Monday noon most of the fever was gone and the swelling was going down. The bandage was removed by the doctor, for he had said when he put it on that, if I took it off myself,

I needn't come back at all. By Wednesday the finger was normal size, but the spot remained and the last joint was numb. This numbness remained almost a week longer and after the brown spot came away with a scab, a small dent remained in the end of the finger for nearly a month. Now, Feb., 1935, a small bit of scar tissue is all that shows.

H. ELLIOTT MCCLURE, Danville, Illinois.

The Sixth International Congress of Entomology.

The V. International Congress of Entomology held in Paris in 1932, having acceded to the Spanish Delegates' motion, agreed to select Madrid as the seat for the following Congress in 1935, the honour of occupying the Chair at the Meeting being conferred upon the undersigned. In view of this decision, the Spanish Government has given the Congress an official character and I am able to announce that the inaugural session will take place in Madrid on September 6 under the patronage of H. E. THE PRESIDENT OF THE SPANISH REPUBLIC. The Spanish Government has issued invitations to foreign countries and is hopeful that official delegates from many countries will attend this scientific gathering in Madrid. By means of this Circular I have the honour to invite, in the name of the Madrid Organizing Committee, the Foreign Academies, Universities, Museums and other Scientific Institutions, including Institutes of Agricultural, Medical and Veterinary Entomology, etc., to send their respective Delegates. The undersigned likewise tenders an invitation to all investigators in any branch whatsoever of the extensive Science of Entomology, or any who may feel in any way attracted to it, to foregather at the Madrid Congress where they will receive a cordial welcome from their Spanish colleagues.

Madrid, February, 1935.

Prof. IGNACIO BOLIVAR,
Chairman of the VI. International Congress of Entomology.

PROGRAMME.

Congress Meetings:

Friday, September 6: Preliminary Sessions.—Opening ceremony with speech by H. E. THE PRESIDENT OF THE REPUBLIC and the Foreign Delegates.—Election of Vice-Chairmen, General Secretary and Chairmen of the Plenary Sittings and of the Sections.

Saturday, September 7: Meeting of the First Plenary Sitting—Meeting of the Sections.

Sunday, September 8: Entomological Excusion to the Sierra of Guadarrama, including visit to the Biological Alpine Station and the classic Entomological seats of San Ildefonso (La Granja) and Forest of Valsain.

Monday, September 9: Meeting of the Second Plenary Sitting.—Sections and Nomenclature Committee.

Tuesday, September 10: Third Plenary Sitting and Meeting of the Sections held on the premises of El Escorial Monastery.

Wednesday, September 11: Fourth Plenary Sitting.—In the afternoon, excursion to Toledo.

Thursday, September 12: Meeting of the Permanent Committee of the International Congresses of Entomology.—Presentation of Motions by the Sections.—Arranging place and fixing date for the holding of the VII. International Congress of Entomology, and election of its Chairman.—Motions of general interest.—Closing of the Congress.

Excursions: Before the commencement of the Congress, there will be a 5 days' excursion to the Picos de Europa (Asturias). Two simultaneous excursions are planned to take place after the Congress: one of a week's duration to Andalusia and the North of Morocco, and another lasting 12 days to the Canary Islands, with 3 days' sojourn in Gran Canaria and 4 days in Teneriffe, when the classic Entomological localities will be visited. The cost of the last named excursion (1st class, with everything included) will not exceed 1,000 pesetas per head.

Festivities and receptions: "Soirée intime," September 5, after dinner.—Reception by H. E. THE PRESIDENT OF THE REPUBLIC.—Visit to the National Palace and its gardens.—Visit to the Prado Museum.—Gathering devoted to Spanish Art.—Visit to El Escorial Monastery and Toledo.—Official Congress Banquet.

Sections of the Congress: 1. General Entomology.—2. Anatomy and Physiology.—3. Ecology and Biogeography.—4. Biospeology.—5. Agricultural Entomology.—6. Forestal Entomology.—7. Medical and Veterinary Entomology.—8. Apiculture.—9. Sericulture.—10. Nomenclature.

Papers, lectures, etc.: Members are requested to notify the Secretarial Office of the Congress of the titles of their papers and other communications, at the very earliest possible date.

Those received in time will be included in a special pamphlet which will be issued prior to the Congress. The official premises of the Congress will be the Museo Nacional de Ciencias Naturales.

Registration: There will be two classes of Congressmen: (A) *Regular members.* These will have the right to vote, submit papers and motions during the meetings as well as take part in debates and be present at receptions, festivities and excursions. They will receive printed matter published by the Congress. (Fee: Pesetas 60=£ 1.10.0=RM. 20=French Francs 125=Liras 100=Dollars 8.)

(B) *Associate members,* namely the persons accompanying the Regular Members. These will be admitted to receptions, festivities and excursions as well as to the Congress Sittings but will not be entitled to vote, submit papers, nor will they receive the publications issued. (Fee: Pesetas 30=£ 0.15.0= RM. 10=French Francs 62.50=Liras 50=Dollars 4.)

Persons desiring to attend the Congress as Members are requested kindly to fill in the Application Form and send it without delay to the Secretarial Offices of the Congress with the respective Fee in any of the currencies named. A Member's Card will be forwarded with a second circular containing full details of Congress arrangements to those registered. The VI. International Congress of Entomology has been organized under agreement with the XII. International Congress of Zoology which will meet in Lisbon from September 15-21.

Travelling and hotel arrangements: The Organizing Committee of the Congress has commissioned the *Wagons-Lits-Cook Company* to make the necessary travelling arrangements, provide hotel accommodation and arrange excursions. The agents of this Company will furnish Members with all travelling information.

Organizing Committee of the Congress: I. Bolivar, *Chairman;* M. Benlloch, J. M. Dusmet, M. M. de la Escalera, *Vice-Chairmen;* F. Bonet, J. del Cañizo, G. Ceballos, J. Gil Collado, F. M. de la Escalera, A. de Zulueta, *Members of the Committee;* C. Bolivar y Pieltain, *Secretary.*

All correspondence, communications of a scientific nature, registration of Members, remittances, etc., should be addressed to

Prof. C. Bolivar y Pieltain,

Museo Nacional de Ciencias Naturales, Madrid-6 (Spain).

Entomological Literature

COMPILED BY LAURA S. MACKEY UNDER THE SUPERVISION OF E. T. CRESSON, JR.

Under the above head it is intended to note papers received at the Academy of Natural Sciences, of Philadelphia, pertaining to the Entomology of the Americas (North and South), including Arachnida and Myriopoda. Articles irrelevant to American entomology will not be noted; but contributions to anatomy, physiology and embryology of insects, however, whether relating to American or exotic species will be recorded.

The **figures within brackets** [ ] refer to the journal in which the paper appeared, as numbered in the list of Periodicals and Serials published in our January and June issues. This list may be secured from the publisher of ENTOMOLOGICAL NEWS for 10c. The number of, or annual **volume**, and in some cases the part, heft, &c. the latter **within** ( ) follows; then the pagination follows the **colon** :

All continued papers, with few exceptions, are recorded only at their first installments.

(*) Papers containing new forms or names not so stated in titles, have an * within parentheses thus (*) following the pagination of reference to paper.

(S) Papers pertaining exclusively to neotropical species, and not so indicated in the title, have the symbol (S) at the end of the title of the paper.

For records of Economic Literature, see the Experiment Station Record, Office of Experiment Stations, Washington. Also Review of Applied Entomology, Series A, London. For records of papers on Medical Entomology, see Review of Applied Entomology, Series B.

Note. Titles of papers containing new forms or new names will be indicated by an asterisk within parentheses at end of reference, (*).

Papers published in the Entomological News are not listed.

New Titles of Periodicals and Serials Referred to.

112. Anales del Instituto de Biologia Mexico.

113. Entomologische Beihefte aus Berlin Dahlem.

114. Occasional Papers of the Museum of Zoology, University of Michigan.

GENERAL.—Osborn, H.—The place of entomological collections in entomological research. [7] 28: 56-59.

ANATOMY, PHYSIOLOGY, ETC.—Ancona, L.—Histologia de los gusanitos de Maguey. Orugas de Aegiale hesperiaris. [An. Inst. Biol. Mexico] 5: 353-361, ill. **Carter, W.**—The symbionts of Pseudococcus brevipes. [7] 28: 60-71, ill. **Fisher, R. A.**—The effect of acetic acid vapor treatment on blood cell counts in the cockroach, Blatta orientalis. (Blattidae). [7] 28:146-153. **Gentil, K.**—Die entsehung der schillerfarben bei Morpho sulkowskyi. [17] 52: 41-44, ill. **Goodrich, A. L., Jr.**—The thoracic sclerites of a trichopterous pupa Dicosmoecus atripes (Limnophilidae). [Trans. Am. Micro. Soc.] 54: 57-64. **Hafiz, H. A.**—The embryological development of Cheyletus eruditus (a mite). [Pro. R. Soc. Lond.] B. 117: 174-201, ill. **Harrison, J. W. H.**—The experimental induction of melanism and other effects, in the geometrid moth Selenia bilunaria. [Pro. R. Soc. Lond.] B. 117: 78-92, ill. **Hill, R. B.**—Habitos alimentecios de algunos anofeles venezolanos. [Bol. Soc. Venez. Cien. Nat. Canacas] No. 19: 411-416. **Iragorry, L. B.**—Contribucion al estudio morfologico de los huevos de algunos Reduvideos. [Bol. Soc. Venez. Cien. Nat. Caracas] No.

18: 398-400, ill. **Mordvilko, A.**—Die blattläuse mit unvollständigem generationszyklus und ihre entstehung. [Ergebn. u. Fortschr. Zool. Berlin] 8:36-328, ill. **Pussard, R.**—Observations sur la biologie di Capnodis tenebrionis et sur les méthodes de lutte contre cet insecte. (Buprestidae.) [25] 40: 23-26. **Rau, P.**—The sting of the male wasp, Monobia quadridens. [5] 41: 245. **Rau, P.**—A note on the attachment of the wasp, Bembix nubilippennis, to their nesting sites. [5] 41: 243-244. **Rau, P.**—Pompilid wasps and prey-transportation by water. [5] 41: 241-242. **Roonwal, M. L.**—An abnormality in the boyau calicial (female accessory glands) of the desert locust, Schistocerca gregaria. [31] 135: 394-395, ill. **Sautet, J.**—Contribution a l'etude du tube digestif des larves d'anopheles et de Theobaldia. [An. Parasit. Hum. et Comp.] 13: 97-108, ill. **Taylor, A.**—Experimentally induced changes in the cell complex of the blood of Periplaneta americana (Blattidae). [7] 28: 135-145, ill. **Webster, W. J.**—Bed bugs in rarefied air. [Indian Jour. Med. Res.] 21: 523.

ARACHNIDA AND MYRIOPODA.—Crosby & Zorsch—Spiders from the Lac St. Jean region of Quebec. [4] 67: 38-42, ill. **Roewer, C. F.**—Bronns klassen und ordnungen des tierreichs. Bd. 5, Abt. 4, Buch 4, pp. 609-723. Solifugae, Palpigradi.

THE SMALLER ORDERS OF INSECTS.—Arcona, L.—Contribucion al conocimiento de los pisjos de los animales de Mexico. Columbicola columbae. (Mallophaga.) [An. Inst. Biol. Mexico] 5: 341-351, ill. **Leonard, J. W.**—The naiad of Celithemis monomelaena (Odonata.) [114] No. 297: 5 pp., ill. **Liu, C.-Y.**—The new bird Ceratophylli from Minnesota (Siphonaptera). [7] 28: 121-125, ill. **Tillyard, J.**—The evolution of the scorpion-flies and their derivatives (Mecoptera). [7] 28: 1-45, ill. **Traver, J. R.**—Two n. g. of North American Heptageniidae (Ephemerida). [4] 67: 31-38, ill. **Watts, J. G.**—Two n. sp. of Stephanothrips from South Carolina and key to the known sp. (Urothripidae: Thysanoptera). [7] 28: 126-130, ill.

ORTHOPTERA.—Pickett, A. D.—Some observations on an outbreak of the two-striped grasshopper (Melanoplus bivittatus) in Nova Scotia. [4] 67: 24-27.

HEMIPTERA.—da Costa Lima, A.—Sobre alguns Coccideos. [Arch. Inst. Biol. Veg. R. d. Janeiro] 1: 131-138, ill. (S*). **DeLong, D. M.**—Some n. sp. of Deltocephaloid leafhoppers (Cicadellidae). [7] 28: 154-159, ill. **Drake &**

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These notices are continued as long as our limited space will allow; the new ones are added at the end of the column, and, only when necessary those at the top (being longest in) are discontinued.

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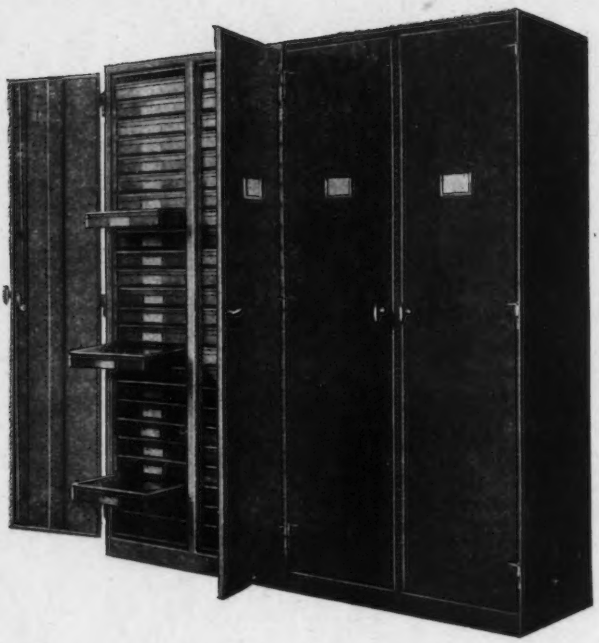

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